

REMARKS

This amendment is responsive to the Office Action dated January 25, 2008. Applicants would like to thank the Examiner for a timely and thorough review of the above-referenced patent application. Claims 1 and 24-38 are pending in the application. Applicants have amended independent Claim 1 to clarify invention. No new matter has been added by the amendment. In light of the amendment and the remarks presented below, Applicants request reconsideration and allowance of all now-pending claims of the present application.

The Present Invention

In various embodiments, the present invention relates to a disk mill having two grinding disks that are each formed as a ring having a central hole and are disposed so as to be substantially parallel to each other. Each disk is capable of rotating with respect to the other, such that in some embodiments, one of the grinding disks is disposed so that it cannot rotate and the other grinding disk is disposed so that it can rotate, however in other embodiments, the two grinding disks may both rotate. The grinding disks comprise first and second working surfaces—the first working surface located in an inner area and the second working surface located in an outer edge section. The first working surfaces are directed towards one another and are spaced apart thereby forming a working space in the area adjacent the hole. The first working surfaces run conically towards one another in an outward direction and narrow the working space. The second working surfaces are substantially parallel to one another forming a slight space between the grinding disks. The first and second working surfaces include straight cutting teeth that have an approximate saw-tooth cross section. The cutting teeth of the first and second working surfaces of the same grinding disk run in the same direction—obliquely oriented to a radial direction. The cutting teeth of the second working surfaces are inclined more sharply than the cutting teeth of the first working surfaces. In such a manner, the exposure time is lengthened in the outer edge section, thus resulting in improved grinding.

Claim Rejections

Claims 1 and 24-38 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Claims 1 and 24-38 also stand rejected under 35 U.S.C. § 103(a) as being

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unpatentable over U.S. Patent No. 5,467,931 to Dodd ("the Dodd patent") in view of U.S. Patent No. 464,592 to Staver ("the Staver patent").

With regard to the rejection of the claims under 35 U.S.C. § 112, second paragraph, the Office Action states that the claims require that the disks are rotatable with respect to one another about a common axis, but that this is not clear because other claims require that one of the disks cannot rotate. Applicants disagree with this interpretation and have amended independent Claim 1 to clarify the claim language. Referring to the current specification, it is disclosed that, in some embodiments, one of the grinding disks is disposed so that it cannot rotate and the other grinding disk is disposed so that it can rotate. However in other embodiments, the two grinding disks may rotate in different directions relative to one another, or, in still other embodiments, the two grinding disks may rotate in the same direction at different speeds. *See Specification, page 3 – page 4.*

Amended independent Claim 1, the sole independent claim of the pending claims, now recites, in part: "A disk mill comprising: two grinding disks each formed as a ring with a central hole, with the disks being disposed so as to be essentially parallel to one another, and being capable of rotating with respect to one another about a common axis which extends through the central holes of the disks... ." Emphasis added. As a result, Applicants submit that the language of independent Claim 1 is now clear such that it incorporates the embodiments described in the specification and any other embodiment in which there is relative rotation, in any form, between the two grinding disks. Therefore, Applicants submit that the rejection of Claims 1 and 24-38 under 35 U.S.C. § 112, second paragraph, has been overcome, and Applicants request that this rejection be withdrawn.

With regard to the rejection of the claims under 35 U.S.C. § 103(a), Applicants disagree that the cited references render the claimed invention obvious. For example, amended independent Claim 1, recites, in part, a disk mill comprising two grinding disks each being capable of rotating with respect to one another about a common axis which extends through the central holes of the disks, and which comprise first working surfaces in an inner area and second working surfaces formed in an outer edge section, wherein the cutting teeth of the first and second working surfaces of the same grinding disk run in the same direction obliquely to the

radial direction, and wherein the cutting teeth of the second working surfaces are inclined more sharply than the cutting teeth of the first working surfaces. This is an advantageous aspect of the present invention because it lengthens the dwell time in the outer section of the grinding disk, thus, according to Applicants, resulting in improved grinding.

The Office Action correctly observes that the Dodd patent does not teach or suggest cutting teeth of the second working surfaces that are inclined more sharply than cutting teeth of the first working surfaces. However, contrary to the assertions in the Office Action, Applicants submit that the Staver patent also does not teach or suggest cutting teeth of the second working surfaces that are inclined more sharply than cutting teeth of the first working surfaces.

Applicants refer to **Fig. 3** of the current application, which shows an example of a grinding disk **2** having a first working surface **9**, disposed in an inner area, and a second working surface **13**, formed on an outer edge section. Lines **15** represent a top view of the cutting teeth (shown for a portion of the first and second workings surfaces). As demonstrated by example in **Fig. 3**, the cutting teeth **15** of the second working surface **13** are inclined more sharply than the cutting teeth **15** of the first working surface **9**, as shown by their relation to the dashed radial line. *See also* Specification page 11. By contrast, the Office Action refers to **Fig. 4** and **Fig. 5** of the Staver patent, which show the cross-sectional profiles of the cutting teeth, not the inclination (i.e. angle with respect to a radial projection) of the teeth. Referring to **Fig. 1** of the Staver patent (which shows the inclination of the teeth), the teeth **j** of the second working surface are inclined less than the teeth **d** of the first working surface.

This difference is bolstered by the fact that the Staver patent discloses a series of grooves or drifts **e**, **f** that cross the teeth **d** in the first working surface. The combination of the grooves or drifts **e**, **f** and the fact that the teeth of the first working surface of the Staver patent are inclined more than the teeth of the second working surface, indicates that the Staver patent discloses more intensive grinding in an inner area of the grinding disk. This is contrary to teachings of the present application, which describes teeth in a second working surface that are inclined more sharply than teeth in a first working surface such that more intensive grinding occurs in the outer edge of the grinding disks.

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Because the Dodd patent and the Staver patent, alone or in combination, fail to teach or suggest each and every claim recitation of independent Claim 1, Applicants submit that independent Claim 1 is patentable over the cited references. Since the remaining claims depend from independent Claim 1 and thus include the claim recitations of Claim 1, Applicants submit the remaining claims are also patentable over the cited references. As a result, Applicants submit that the rejection of Claims 1 and 24-38 under 35 U.S.C. § 103(a) has been traversed, and Applicants request that this rejection be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that the claims of the present application are now in condition for allowance. It is respectfully requested that a Notice of Allowance for all pending claims be issued in due course. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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ELECTRONICALLY FILED USING THE EFS-WEB ELECTRONIC FILING SYSTEM OF THE UNITED STATES PATENT & TRADEMARK OFFICE ON APRIL 25, 2008.